



FORESTLAND STEWARD

WORKING TOGETHER FOR HEALTHY FORESTS

SUMMER 1999

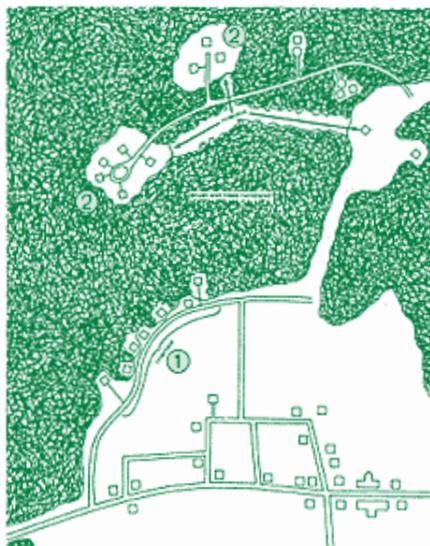
Welcome to the I-Zone

To some it is a paradise, where the air is clean and big city ills are far away. Others recognize the potential nightmare as thousands of people move into the wildlands, an environment subject to unpredictable but inevitable wildfire.

Welcome to the wildland/urban interface or intermix, a.k.a. the I-Zone. This is the place where flammable vegetation and flammable human structures meet. And, with a larger number of people moving into these areas, any wildland fire has a greater potential of causing harm to homes and structures.

The costs and frequency of wildland fires are increasing. After decades of fire suppression, the fuel load in many forests is at an unhealthy level. This increases the danger of catastrophic wildfire while the growing population makes any fire more difficult to control. The worst wildfires in California's history have occurred since 1980, and more than 60 percent of the homes that have burned since 1923 have been lost in the last decade.

Besides concern for lives and property, there are other problems and complexities when dealing with fire in the I-



*If you want to be precise, an **interface** ① is an area where development and wildlands meet at a well-defined boundary while an **intermix** ② has no clearly defined boundary. However, most people use these terms interchangeably to describe the various types of areas where dangerous combustible wildland fuels are found adjacent to combustible homes and other structures.*

Zone. Firefighters who fight structural fires have different strategies and equipment from those who fight wildland fires. In the interface, both operate at a disadvantage. Neither can do their job with

the efficiency they were trained for.

In addition, fire burns without regard to jurisdictional maps. A single wildfire can affect numerous institutions, private and public landowners, city, state and federal resources. This requires separate agencies to work together to be effective.

What can be done? Any solution must recognize that wildfires will continue to burn and people will continue to move into the I-Zone. The problem is going to get worse.

The first step is to realize that this problem must be addressed, it's not going away. A long-term solution will require an understanding of the issues, various choices and their consequences. In the meantime, there are steps that individuals, communities, and government entities can do to reduce the fire risk in their area. See page 7 for some suggestions.

An excellent resource on this topic is "How Can We Live With Wild Land Fire?" a booklet designed for discussion of these issues. Call the Forest Stewardship Helpline for this and other resources or go to the Forest Stewardship Website for information.

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California Dept. of Forestry & Fire Protection
Forest Stewardship Program
P.O. Box 944246
Sacramento, CA 94244-2460

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Assistance

Programs and Opportunities for California Forestland Owners

This is a partial listing of programs and opportunities available to forestland owners from public agencies and private organizations. More information about these programs will be available at the **Forest Stewardship Workshops** being held this summer and fall (see page 3) or by calling the **Forest Stewardship Helpline (1-800-738-8733)**.

Working in the Woods: A Guide for California Forest Landowners. A free CD-ROM on forest management, developing a forest management plan, estate planning for forest landowners, forest practice rules, forest ecology, and more.

1998 Cost Share and Assistance Programs Directory. Free directory of federal and state programs focused on forestry, wildlife, watershed, fisheries, etc. Includes information about program goals, eligibility, contact person. Call the Helpline above or download a copy at <http://ceres.ca.gov/foreststeward/funding.html>

California Dept. of Forestry and Fire Protection (CDF)

California Forest Improvement Program (CFIP). See article next page.

The **Forest Health Program** has forest pest specialists who provide technical assistance and occasional control projects for forest pest issues. Contact your local forester or Steve Jones, (916) 653-9450.

The **Forest Stewardship Program (FSP)** encourages good stewardship of forests and oak woodlands, and operates on a community or watershed scale. Contracts are awarded; watch for this year's Request for Proposals.

The companion **Stewardship Incentive Program (SIP)** funds projects through individual contracts with private landowners. This program received no funding this year; we hope to see funds reinstated next federal fiscal year.

Vegetation Management Program (VMP) provides cost share to encourage the use of prescribed fire to control wild-fire hazard. CDF covers the liability, plans for, and conducts the burn. Contact

your local CDF Ranger Unit for more information.

USDA Forest Service administers a number of programs designed to encourage sound stewardship including FSP and SIP. Contact Sandra Stone at (707) 562-8918; ssstone/r5@fs.fed.us.

USDA Natural Resources Conservation Service (NRCS). The NRCS provides technical assistance to landowners regarding soil erosion, developing ponds, soil productivity and management. They oversee the following:

Environmental Quality Incentives Program (EQIP) provides technical, financial, and educational assistance to address natural resource problems.

Forestry Incentives Program (FIP) cost shares tree planting and timber stand improvement practices.

Resource Conservation Districts (RCDs) help landowners plan for proper land use and develop a plan that addresses more than just forest resources; it coordinates the best management of woodlots, wildlife habitat, crop land, water resources, and more. For information contact California Assn. of RCDs, 916 447-7237; carcd@ns.net. Website: <http://ceres.ca.gov/carcd/index.htm>.

Forest Landowners of California (FLC) represents the interests of family forest owners before the state legislature and state regulatory agencies such as the Board of Forestry. Forest Landowners of California, 980 9th St., #1600, Sacramento, CA 95814. 916 972-0273. dweldon@forestlandowners.org. Website: www.forestlandowners.org.

California Tree Farm Program. Tree farming is a voluntary, nationwide conservation program sponsored by the forest products industry. Its goal is to provide trees for the future by recognizing and encouraging good management of privately owned timberland. Calif. Tree Farm Comm., 5441 Shelley Way, Carmichael, CA 95608. 916 488-8322; fredltf@hotmail.com. www.caltreefarm.com.

University of California Cooperative Extension (UCCE). UCCE conducts workshops and conferences for forest landowners (see *Forest Stewardship Work-*

(continued next page)

FORESTLAND STEWARD

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(916) 653-8286
Fax (916) 653-8957
<http://ceres.ca.gov/foreststeward>

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shops below) addressing such topics as: local forest ecology and history, fuels and wildland fires, timber harvesting, laws and regulations, estate planning and taxes, cost-share and assistance programs, other sources of information.

The Center for Forestry at UC Berkeley coordinates the forestry research and landowner education programs of the University. For more information contact 510 642-0095; forestry@nature.berkeley.edu; Website: <http://nature.berkeley.edu/forestry>.

Family Forestland Owner Workshops

UC Cooperative Extension is sponsoring a series of workshops for family forest landowners to assist in understanding more about their forest; protecting it from wildfire, insects and disease; learning about its ecology and use; and finding out where to get money to do things. Workshops will be held from 9:30am to 3:00pm. Cost is \$15/person or \$25/couple. To register or for information, contact Sherry Cooper, (530) 224-4902; shcooper@ucdavis.edu.

Wednesday, June 30

San Andreas Public Library
San Andreas

Saturday, July 10

Shasta College, Room 804
Hwy 299 East, Redding

Saturday, August 14

Blodgett Forest (field workshop)
Georgetown

Saturday, September 25

UC Coop. Ext. office (field)
1851 Hartnell Ave., Redding

Sept. TBA

Swanton Pacific Ranch (field)
Cal Poly San Luis Obispo
480 Swanton Rd, Davenport

Saturday, October 9

UC Forest Products Lab
Richmond

October TBA

UC Forestry Camp
Meadow Valley, Plumas Co. ▲

CFIP Funds Expected in July

Funds for tree planting, thin and release, erosion control, and fish and wildlife habitat improvement projects will soon be available through the California Forest Improvement Program (CFIP). Approximately \$2.2 million is expected when the new state budget is signed in July.

CFIP is a program aimed at improving the economic value and environmental quality of forestlands. CFIP can help rebuild forest and wildlife resources to meet our future needs for a healthy environment and productive forests. Forest landowners can be reimbursed up to 75% of their expenses for the following:

- ◆ Preparation of a Management Plan
- ◆ Site preparation, tree planting, and follow-up work.
- ◆ Tree thinning or release.
- ◆ Erosion control, including revegetation, road rehabilitation, and installation of structures such as waterbars, rocked crossings, etc. to reduce soil erosion and stream sedimentation.
- ◆ Fish and wildlife habitat improvement, including creation of corridors and openings, planting oaks or riparian

species, installing exclusion fencing along watercourses and wetlands, and stream restoration projects.

- ◆ Project supervision by a Registered Professional Forester.

The property must contain 20 to 5,000 acres having or capable of supporting at least 10% tree cover and the zoning must allow forest resource management. The 20 acre limit does not apply to erosion control or fish and wildlife habitat improvement projects.

Ninety percent cost share rates are provided for lands damaged by wildfire, insects, disease, wind, floods, landslides or earthquakes in the last 10 years.

The minimum project size for tree planting or thin/release work is five acres. Any work required under the Forest Practice Act is not eligible for CFIP funding. Planting or thinning of trees for use as Christmas trees, greenery or firewood is not eligible.

For more information or to submit an application, contact Jill Butler in Santa Rosa at (707) 576-2935, Tom Sandelin in Fresno at (559) 243-4108, or Thomas Porter in Riverside at (909) 320-6120. ▲



Cost Share Assistance in Action—The McCloud Railway Company is known for its elegant dinner train but less well known is its work behind the scenes to maintain the railroad right-of-way. This property provides multiple benefits: hiking and biking trails and other recreation, timber, fire protection, and aesthetics. Here the site is being prepared for planting with cost-share assistance from the Stewardship Incentive Program (SIP). Trees will be planted every 12 feet to break up the continuity of the fuels, providing a shaded fuel break.

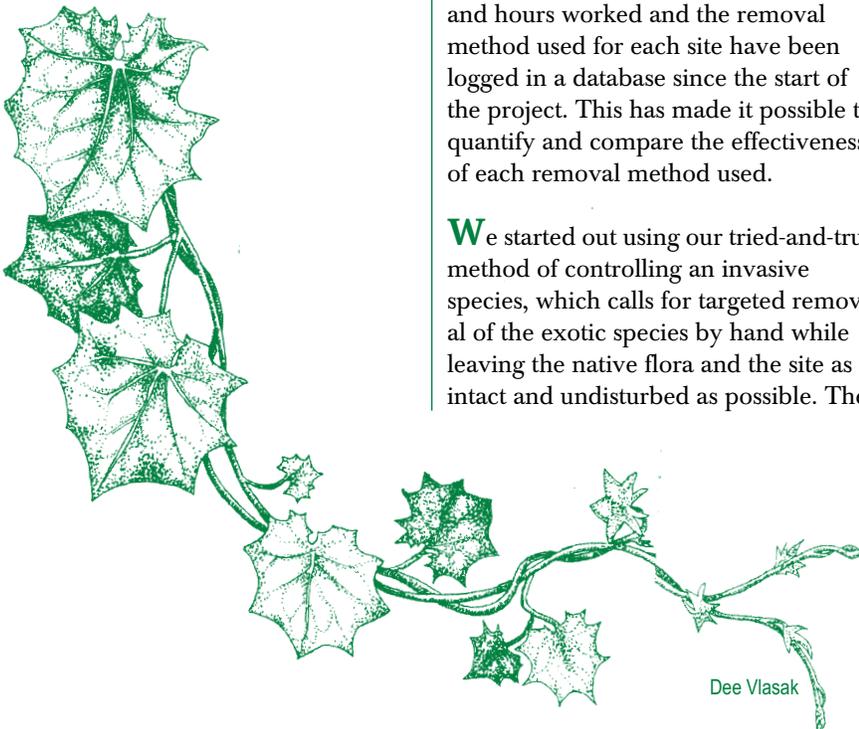


Exotic Pests

Battling the Kudzu of the West

*Ken Moore,
Wildlands Restoration Team*

A creeping blanket of vegetation smothering everything in its path is a daunting sight indeed. Unfortunately, it is becoming an increasingly common one as cape ivy drops its green curtain over coastal canyons and streamsides throughout much of California. Cape ivy, *Delaireia odorata*, was until recently called German ivy, *Senecio mikanioides*. Capable of growth rates which easily outstrip native species, and possessing twining, easily broken stems able to resprout from any piece containing a single node, this plant combines the worst habits of the notorious kudzu vine and the mythical hydra. These characteristics make the prospect of controlling even small infestations of cape ivy by hand removal seem bleak indeed. Or so I thought when our



volunteer program, the Wildlands Restoration Team, first started doing battle with this scourge from South Africa in the fall of 1993.

The project area is in Santa Cruz County, along lower Waddell Creek in Big Basin State Park. For record-keeping purposes, the area was described as 19 separate sites ranging in size from about 200 square feet up to about 15,000 square feet. A "site" is here used to mean a single area of contiguous infestation. The total area of the 19 sites is about 146,600 square feet., or about 3-1/3 acres. The sites were mapped and named, and detailed records of dates and hours worked and the removal method used for each site have been logged in a database since the start of the project. This has made it possible to quantify and compare the effectiveness of each removal method used.

We started out using our tried-and-true method of controlling an invasive species, which calls for targeted removal of the exotic species by hand while leaving the native flora and the site as intact and undisturbed as possible. The

“Repeated attempts to rid these sites of cape ivy affirmed what I already feared: This wasn’t going to work.”

cape ivy was stacked on site in tall piles to minimize ground contact area. The team put in a total of 1,130 person-hours using this method; the result was nearly complete failure.

Return visits to most sites two to three months later found them reinfested almost as badly as before we started. Careful inspection of the sites confirmed my suspicions: the rampant and impenetrable mess of hostile vegetation in these lush riparian zones was keeping the team from *seeing* and *getting to* the cape ivy. Places where native vegetation was initially sparse showed very little cape ivy regrowth, whereas in areas of dense native vegetation, especially stinging nettles and blackberry, the cape ivy came back immediately. Repeated attempts to rid these sites of cape ivy for the next year with our selective removal method affirmed what I already feared: This wasn’t going to work.

Clearly, a new game plan was in order. When we returned to Waddell Creek to do battle in late fall of 1995, I directed a very reluctant team to completely clear the sites of anything that was keeping them from getting to the cape ivy—alive or not, native or not. Telling a bunch of experienced restoration volunteers to clear a site of all vegetation went over almost as well as if I had told them to plant yellow star thistle on our hard-won former French broom sites. In addition to being counter-intuitive, it was one heck of a



lot of work. We used Pulaskis, Mcleods, bank blades, shovels, and chain saws to clear the site of all hindering vegetation. We stacked everything, piling the cape ivy separately from all other plant materials. We cut up and moved large logs which had been deposited by the high winter flows, as cape ivy loves to hide under them. Using the sharpened "hoe", or straight edge of the Macleod, we scraped the soil clean of all duff to get rid of the nodes and roots I knew were still there. A total of 1,016 person-hours were put in to accomplish complete clearing of the 19 sites. I coined the name "scorched earth" to describe this extremely unpopular method, and I knew I stood to lose some loyal volunteers if it didn't work.

But by the end of 1996, I could see that it was working. Very little cape ivy was in evidence on any of the sites, and most of what did come back was from previously pulled plants still hanging on to life in the piles themselves or from areas around the perimeter of the site that had not been cleared back far enough to see those last few smaller plants lurking there. We reworked all the sites again in the spring of 1997, and this time we were able to repull the remaining cape ivy on all of them in just one team day: 238 person-hours! Our hard work had paid off, as now it was easy to see and remove any new growth on the clean sites. The people who had worked these sites previously were elated. It seemed I would not be burned on a nearby pyre of previously pulled broom after all!

On sites subjected to "scorched earth," the regrowth of natives was strong and fast and inspiring to behold: A testimony to the vitality of these nutrient-rich riparian habitats. Ironically, this vigorous native regrowth is fast becoming our biggest problem, as it makes it difficult for us to see any new cape ivy regrowth. It requires very diligent combing through the dense new growth by experienced people to

find those few newly emerging plants, but so far this seems to be working, and many of our sites are showing no ivy regrowth at all this year. The old piles of cape ivy can still harbor live plants, but turning the piles over and extracting the live material once or twice has eliminated this problem on most of the sites. If the site has good sunlight availability, we spread the pile out in a 4 to 5 inch thick layer on top of 10 mil plastic. This greatly speeds up the desiccation and death of any plants that are still viable.

CONCLUSION: It is possible to control cape ivy using hand removal methods. But it takes a concerted effort to accomplish, and we now know that anything short of that will meet with sure failure. Continued monitoring will be needed, as well as some repulling, depending on how thorough a job was done initially: A poor first pull will result in a site looking like it was never worked at all in a very short time! And even if nearly all of the cape ivy was removed the first time, just the small amount that is invariably missed can re-establish itself with alarming rapidity.

Also, if there is a cape ivy source upstream, high water flows in the winter can be expected to transport pieces of plants downstream which can reinfest old work sites and begin new colonies. So, if you are considering tackling a cape ivy project, be sure you will be able to see it to completion before starting in. The prodigious growth rate of this green menace will quickly and dramatically advertise a failed effort, and this could handicap your ability to mobilize help for future restoration.

Ken Moore is Coordinator of the Wildlands Restoration Team, an organization that works on restoring wildlands in all state parks of the Santa Cruz Mountains. Volunteers have been successful in their efforts against invasive plants since 1990, pioneering new non-herbicidal methods for controlling exotic species.

The organization has also published a booklet entitled "A Plague of Plants" which is filled with information on exotic pest plants and techniques for removal. It is available at <http://www.wildwork.org>. Contact the Wildlands Restoration Team at (408) 423-2801. ▲

Welcome recognition

The Executive Order on Invasive Species was signed by the President on February 3, 1999 and signals official recognition of the problem of exotic pest species.

The Executive Order calls for the creation of an Invasive Species Council made up of representatives of the Departments of Agriculture, Commerce, Defense, Interior, State, Transportation, Treasury and the Environmental Protection Agency.

The Council's first task is to come up with an Invasive Species Management Plan, due within 18

months of the signing of the Executive Order.

The Order also creates an Advisory Board that will be responsible for linking programs and policymakers to the diverse stakeholders who are concerned about this problem.

In addition, the Order provides \$28 million to be distributed among participating agencies to support efforts to deal with invasive exotics.

It is hoped that this expression of awareness and concern at the highest levels of government will lead to increased funding for efforts to eradicate invasive pest species. ▲



Basic Concepts

Ecological Principles Help Predict Forest Changes

Forests are dynamic systems—they are constantly changing. Plants grow, die, and are replaced by others. Disturbances occur frequently on various scales: fire, insect damage, disease, animal activity, etc. While some changes are obvious, others are subtle or occur too slowly to be readily noticed. Some changes occur in somewhat predictable patterns. These provide the basis for much of forest management.

Succession

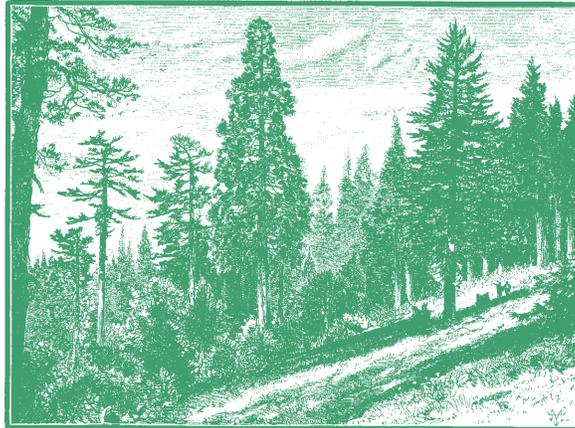
Succession is one such pattern. Succession is the change in species composition that occurs in plant communities, in a generally sequential manner. The entire sequence is called a *serie* and each of the characteristic changes, a *seral stage*. While the stages occur in a continuum and cannot be precisely predicted, each seral stage has a characteristic species composition, structure, and processes.

We can see succession at work most clearly in a situation such as a newly burned forest area. First, plants that colonize quickly and are tolerant of sun exposure will become established. Grasses and certain annual species are often the first pioneers into a burn. Next come fast-growing shrubs and certain trees. Eventually, if the area remains undisturbed, slower-growing, shade tolerant trees will become re-established and a mature, self-sustaining community will dominate. This is known as the *climax* stage.

Of course, succession in the real world is much more complex than described here. Which species become established depends on innumerable factors including: what seeds are available in the soil or nearby gene pool, competition, climate, soil characteristics, and chance. Localized disturbance may

open up smaller areas to early seral stages while other parts of the forest continue through later stages.

Many forestry techniques depend on the concept of succession. Timber harvest, wildlife habitat improvement, and



other activities are based on influencing succession, creating disturbances that keep an area in the earlier seral stages.

Conversely, after a fire, shrubs are often removed (manually or chemically) to allow trees to grow quickly, speeding up the process to encourage later seral stages.

Wildlife

While we normally think of plants when discussing succession, animals are also profoundly affected by the seral stage of the forest. The plant components of an ecosystem provide food, cover, and other habitat requirements that determine what wildlife species can live there. Changes in vegetation are accompanied by corresponding shifts in wildlife.

Major disturbances, whether natural or human-induced, that profoundly affect the community seral stage require animals to adapt quickly—or to move or die. If suitable habitat is nearby, mobile animals may be able to re-establish

themselves but are likely to perish anyway if that habitat is already fully occupied. Less mobile species may not be able to adjust to the changes and will not survive.

There are many species that thrive in early successional forests, however, others require late succession ecosystems for survival while others live at the edge between successional stages or may require different stages at different times of their life cycle. Understanding some of the complexities of these ecosystem dynamics allows more informed forest management decisions.

Silviculture

The art and science of tending a stand of trees based on ecological principles is called *silviculture*.

Silvicultural treatments alter the composition and structure of a stand of trees to achieve management objectives.

Thinning, for example, is a silvicultural treatment that is used to reduce competition for the remaining trees, allowing them to grow more quickly—in other words, speeding succession. Thinning can accomplish other objectives, such as improving habitat for certain species of wildlife or decreasing the danger of wildfire in areas of high risk.

Some silvicultural treatments, e.g. clearcutting, mimic to an extent very large disturbances in the ecosystem such as a wildfire. Other treatments, e.g. single tree selection, may mimic smaller disturbances such as the openings that occur when individual trees die.

While there are important differences between natural disturbances and analogous silvicultural practices, incorporating ecological principles into forestry practices helps to minimize damage and maintain the health of these complex ecosystems. ▲



Seasonal Stewardship

Breaking Up Fuel Continuity and Fuel Ladders

Defensible space is that area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and provide an opportunity for firefighters to safely defend the house.

Are you concerned about the fire risk in your area (see *I-Zone* article page 1)? The arrangement of fuels is critical to a defensible space and is a key to making sound defensible landscaping decisions.

“Fuels” are trees, shrubs, leaf litter, houses, and other flammable materials. Fire requires fuel to burn so where the fuels are reduced, fire intensity will be reduced accordingly. The more continuous the fuel layer, the more rapidly a fire can spread and the greater the potential for high intensity fires.

Shrubs in the defensible space should be planted in (or thinned into) clumps, or islands, with open space between each. Some landscapes are designed with areas of walkways, drive-ways, patios, and other “hardscaping” to provide aesthetically pleasing fuel breaks.

In addition to horizontal continuity, vertical fuel ladders are another concern. Fuel ladders are created by layers of flammable material that allow a fire to move from the ground to the tree canopy. For example, pine needles on the ground can ignite and burn shrubs which in turn ignite tree limbs or leaves. Fuel ladders are a major cause of high intensity crown fires.

Fuel ladders can often be removed by pruning branches of trees or removing shrubs. A rule of thumb is that, within the defensible space area, vertical separation between fuel layers should be at least three times the height of the lower fuel layer. Following that formula, a 4' shrub growing next to an incense cedar should be separated by 12 vertical feet (4' x 3'). This could be accomplished by removing the lower tree branches, reducing the height of the shrub, or both.

Trees planted in defensible spaces should be far enough apart that a fire cannot travel across tree canopies. This separation is especially important around structures like houses. ▲

Prepare for Fire Season, Fall Projects

Finish preparing your home and property for the fire season.

- ◆ Create adequate defensible space around structures.
- ◆ Break up the continuity of fuels.
- ◆ Remove fuel ladders.
- ◆ Irrigate the landscape around your home.
- ◆ Stack wood at least 100' away and uphill from the house and other structures (such as decks and fences).
- ◆ Install or replace your address sign to be visible to firefighters.
- ◆ Make sure roads are passable for vehicles and fire-fighting equipment (e.g. a large branch might prevent an engine from entering).
- ◆ Practice a family fire drill to make sure you're prepared for an emergency.
- ◆ Contact your local RCD (Resource Conservation District) or CDF (Calif. Dept. of Forestry & Fire Protection) Ranger Unit for more ideas on how to reduce the fire risk in your area.

Plan your fall projects.

- ◆ Identify thinning and pruning areas.
- ◆ Get planting projects organized. Identify areas to plant and decide on species so that you're ready to order seedlings.



Recommended Distances Between Tree Canopies by Slope

Percent Slope	Recommended Distances
0 to 20	10 feet
21 to 40	20 feet
41 to 60	30 feet

—adapted from *wildland Home Fire Risk Meter*, Simmerman and Fischer, 1990 by *The Defensible Space and Healthy Forest Handbook*, 1997



What's in a Name?

RC&D or RCD: What's the Difference?

"Sometimes I feel that I spend half my time answering that question," –Bill Brooks, former Coordinator, Central Coast RC&D.

RC&D or RCD? It's very confusing. Often people fail to realize that these are two different entities. But one is a national government program, the other a local special district. Both work on local conservation issues and can assist landowners with their projects.

RC&D stands for Resource Conservation & Development, a program of the Natural Resource Conservation Service which is under the US Department of Agriculture (USDA). RC&Ds have been around for over 30 years and work to link land conservation and utilization with economic development and improvement of social conditions.

RCDs, on the other hand, are local Resource Conservation Districts governed by locally-elected or appointed boards. RCDs were authorized by State Law in 1938 to carry out local resource conservation programs. There are approximately 104 RCDs in California.

The RC&D process also recognizes that local people are best able to determine their needs and create solutions for their community. The RC&D Program is carried out by volunteer RC&D Councils. There are six Councils in California (with two more proposed), each of which has a paid Coordinator who is an employee of the NRCS.

Each RC&D Council encompasses several counties and is made up of representatives from local government entities such as Boards of Supervisors as well as other groups. And this is where it gets even more confusing: RC&D Councils in California often include representatives from RCDs.



RC&Ds look for ways to solve environmental and economic problems in their local communities. Rice straw is used here to control erosion on a burn site in Placer County. This reduces field burning and air pollution while providing an economic return to rice farmers.

Councilmembers work together to identify the problems in their area and adopt an Area Plan which establishes the goals and objectives of the area. The Council then works in partnership with public and private resources to find funding and technical support to accomplish projects that will allow them to achieve their objectives.

For example, the Central Coast RC&D identified two broad goals to address:

1. Enhance and sustain the good health of regional watersheds while providing for human needs.
2. Implement rural economic development consistent with developing a long-term sustainable economy.

RC&Ds also work on local projects, often in partnership with other agencies. Their role has expanded over the years from primarily flood control and agricultural projects to now include most conservation-related issues including land-use and watershed planning, wetland preservation, soil and water management, wildlife habitat enhance-

ment, restoration, education, economic development, and forest stewardship.

For more information, contact your local RCD or local RC&D Council (*see maps to the right*) or call the Forest Stewardship Helpline at 1-800-738-TREE. ▲

Alphabet Soup

RCD—Resource Conservation District. Locally-led special districts throughout California.

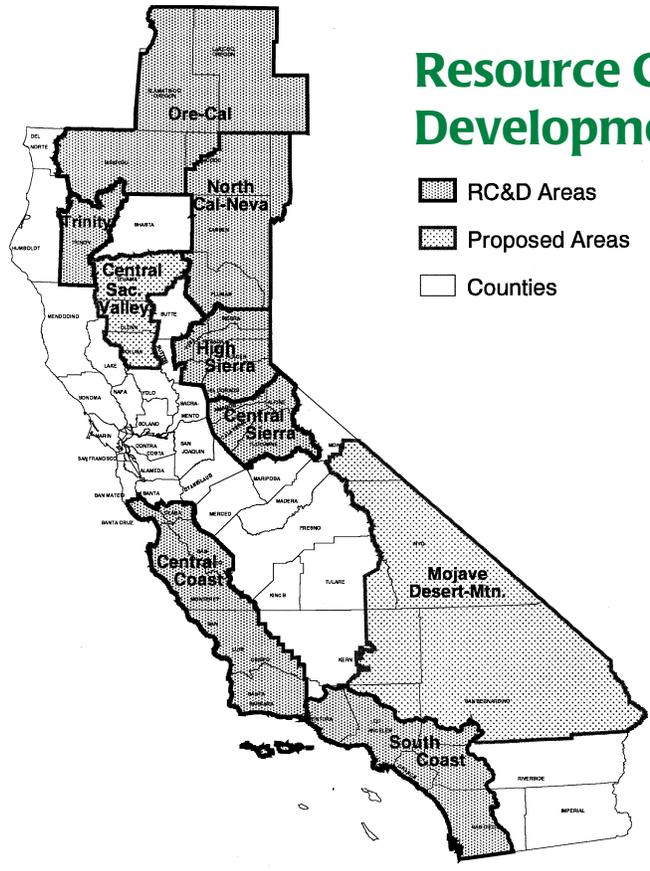
RC&D—Resource Conservation and Development. A program of NRCS.

NRCS—Natural Resource Conservation Service. A program of the USDA. (Formerly the SCS.)

SCS—Soil Conservation Service. The old name of the NRCS.

USDA—US Department of Agriculture which has authority over the NRCS and RC&D programs.

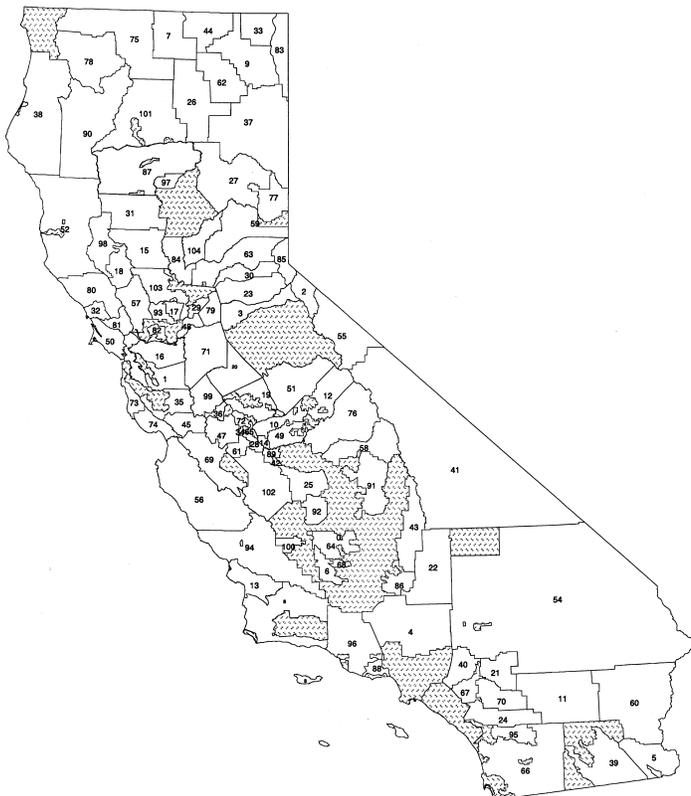




Resource Conservation and Development Areas (RC&Ds)

- RC&D Areas
- Proposed Areas
- Counties

Resource Conservation Districts (RCDs)



Alameda County RCD	1	Mission RCD	53
Alpine RCD	2	Mojave Desert RCD	54
Amador County RCD	3	Mono RCD Minden/Gardnerville	55
Antelope Valley RCD	4	Monterey RCD	56
Bard RCD	5	Napa County RCD	57
Buena Vista RCD	6	Navalencia RCD	58
Butte Valley RCD	7	Nevada County RCD	59
Cachuma RCD	8	Palo Verde RCD	60
Central Modoc RCD	9	Panoche RCD	61
Chowchilla-Red Top RCD	10	Pit RCD	62
Coachella Valley RCD	11	Placer County RCD	63
Coarsegold RCD	12	Pond-Shafter-Wasco RCD	64
Coastal San Luis RCD	13	Poso RCD	65
Columbia RCD	14	RCD of Greater San Diego Co.	66
Colusa County RCD	15	Riverside-Corona RCD	67
Contra Costa RCD	16	Rosedale-Rio Bravo RCD	68
Dixon RCD	17	San Benito RCD	69
East Lake RCD	18	San Jacinto Basin RCD	70
East Merced RCD	19	San Joaquin County RCD	71
East Stanislaus RCD	20	San Luis RCD	72
East Valley RCD	21	San Mateo County RCD	73
Eastern Kern County RCD	22	Santa Cruz RCD	74
El Dorado County RCD	23	Shasta Valley RCD	75
Elsinore-Murrieta-Anza RCD	24	Sierra RCD	76
Excelsior-Kings RCD	25	Sierra Valley RCD	77
Fall River RCD	26	Siskiyou RCD	78
Feather River RCD	27	Sloughouse RCD	79
Firebaugh RCD	28	Sotoyome-Santa Rosa RCD	80
Florin RCD	29	Southern Sonoma County RCD	81
Georgetown Divide RCD	30	Suisun RCD	82
Glenn County RCD	31	Surprise Valley RCD	83
Gold Ridge RCD	32	Sutter County RCD	84
Goose Lake RCD	33	Tahoe RCD	85
Grassland RCD	34	Tehachapi RCD	86
Guadalupe - Coyote RCD	35	Tehama County RCD	87
Gustine-Romero RCD	36	The RCD of Santa Monica Mtns.	88
Honey Lake Valley RCD	37	Tranquility RCD	89
Humboldt County RCD	38	Trinity County RCD	90
Imperial Irrigation District RCD	39	Tulare County RCD	91
Inland Empire West RCD	40	Tulare Lake RCD	92
Inyo-Mono RCD	41	Utatis RCD	93
James RCD	42	Upper Salinas-Las Tablas RCD	94
Kern Valley RCD	43	Upper San Luis Rey RCD	95
Lava Beds RCD	44	Ventura County RCD	96
Loma Prieta RCD	45	Vina RCD	97
Lompoc RCD	46	West Lake RCD	98
Los Banos RCD	47	West Stanislaus RCD	99
Lower Consumnes RCD	48	Western Kern RCD	100
Madera RCD	49	Western Shasta County RCD	101
Marin County RCD	50	Westside RCD	102
Mariposa County RCD	51	Yolo County RCD	103
Mendocino County RCD	52	Yuba County RCD	104



Resources

An Inventory of Weed Control Projects

At first glance a database on weed control projects may not seem too exciting, but the CalWeed Database is a wonderful resource for anyone interested in tackling a noxious weed project.

The database offers information on more than 700 active weed control projects in California. You can use it to search for specific types of weed control projects, to find out what is going on in your area, to learn which control methods are used on a specific weed, and to find others working on your problem area.

You can also use the database to contact weed control project leaders for

more information on their techniques and experiences.

Best of all, the CalWeed Database is online at <http://endeavor.des.ucdavis.edu/weeds/> where you can search by county, targeted weed, or control method. You can also add your own weed control project to the database to share your project with others. A hard copy of the database is also available.

The CalWeed database is a project of the California Interagency Noxious Weed Coordinating Committee and is a subset of the Natural Resources Project Inventory (NRPI). For more information contact Steve Schoenig at (916) 654-0768 or sschoenig@cdfa.ca.gov. ▲

Learn More About the I-Zone

California's *I-Zone: Urban/Wildland Fire Prevention & Mitigation*, edited by Rodney Slaughter, contains just about everything you ever thought to ask about the I-Zone (see page 1).

This collection of articles by a great variety of authors is divided into four sections: Model Code & Enforcement; Building Standards & Technology; Domestic & Wildland Fuels; and Risk, Responsibility & Programs. Within these sections you will find chapters on history, zoning, building standards, cost-benefit analysis, fire ecology, landscaping, watershed management, and much more.

With all of this solid information, it was brilliant of the editor to include a personal account written by a survivor of the Southern California Firestorm. This chapter alone brought home the importance of all the planning and science.

Written in 1996, a new edition is expected out soon. The book may be purchased from the CFESTES Bookstore, 7171 Bowling Drive, Sacramento, CA 95823-2034 or call the Office of the State Fire Marshal, (916) 445-8500. ▲

Plants for the I-Zone

A brand new publication/database, "Defensible Space Landscaping in the Urban/Wildland Interface: A Compilation of Fire Performance Ratings of Residential Landscape Plants" has been completed by the UC Forest Products Lab. This publication contains fire performance information on 598 species of plants.

It is currently available at <http://www.prefire.ucfpl.ucop.edu/vegetati.htm> and will soon be out in hard copy. Call the Forest Stewardship Helpline at 1-800-738-TREE for more information on fire resistant landscaping. ▲

Technical Assistance Resources

Many agencies are available to provide technical assistance, referrals, information, education, land management plan assistance, and advice.

California Stewardship Helpline (800) 738-TREE; ncsaf@mcn.org

California Department of Forestry and Fire Protection

Forest Landowner Assistance Programs

Jim Geiger
(916) 653-8286
jim_geiger@fire.ca.gov

California Association of RCDs

Thomas Wehri
(916) 447-7237
carcd@ns.net

California Resources Agency: California Environmental Resources Evaluation System (CERES)

Deanne DiPietro
(916) 653-8614
deanne@ceres.ca.gov

Natural Resources Conservation Service

Jerry Reioux
(530) 792-5655
jerry.reioux@ca.usda.gov

Farm Service Agency

Larry Plumb
(530) 792-5520

California Dept of Fish & Game

Barrett Garrison
(916) 653-1738
bagarris@hq.dfg.ca.gov

U.C. Cooperative Extension Forestry

John LeBlanc
(510) 642-6678
jleblanc@nature.berkeley.edu

Richard Harris
(510) 642-2360
rrharris@nature.berkeley.edu

Gary Nakamura
(530) 224-4902
gmnakamura@ucdavis.edu

USDA Forest Service

Sandra Stone
(707) 562-8918
sstone/r5@fs.fed.us



Calendar

July 27–August 1, 1999

National Envirothon at Humboldt State University

Arcata, CA
California Envirothon, National Envirothon, RCDS Committees
Sharon J. Boyce 209-722-4119, ext. 115
sharonboyce@iname.com

All state winning teams from U.S. & Nova Scotia. Volunteers and judges needed for this exciting "hands-on" event where high school teams make natural resource/environmental management decisions

August 2–4, 1999

Board of Forestry

Board of Forestry
916-653-8007; fax 916-653-0989
Professionals, academics, general interest

August 14, 1999

Forest Stewardship Field Workshop

Georgetown, CA
UC Cooperative Extension & Ctr. for Forestry, CDF, RCD, Forest Landowners of Cal., Cal Poly SLO, Shasta College
Sherry Cooper 530-224-4902
shcooper@ucdavis.edu
For family forest landowners
\$15 individual/\$25 couple

August 15–20, 1999

California Urban Forest Academy

CalPoly, San Luis Obispo
CDF, CalPoly, Urban Forest Ecosystem Institute
John Bryant 805-756-5171; Ken Delfino 661-399-7066;
ufei@polymail.cpunix.calpoly.edu
For all urban forestry professionals, volunteer organizations and local govt.
\$300 inc. all materials and lodging

August 24–25, 1999

GIS for Resource Managers and Professionals

Sacramento, CA
University of California Extension, Davis
800-752-0881, fax 530-757-8558;
lunrinfo@unexmail.ucdavis.edu
Professionals, academics, general interest
\$480; <http://universityextension.ucdavis.edu>
Section 991U430

August 30–September 3, 1999

Phytophthora Symposium

Grants Pass, OR

Oregon State University
Conference Asst. 541-737-2329; fax 541-737-4966; <http://www.cof.orst.edu/cof/extended/conferen/>

September 1, 1999

Regional Habitat Conservation Planning: Successes & Lessons Learned

Sacramento, CA
University of California Extension, Davis
800-752-0881, fax 530-757-8558;
lunrinfo@unexmail.ucdavis.edu
For professionals, academics, general interest
\$225; <http://universityextension.ucdavis.edu>
Section 991U600

September 7, 1999

Forest Products Laboratory Open House

Richmond, CA
UC Forest Products Laboratory
Janice Montano 510-215-4222
janice.montano@ucop.edu
Professionals, academics, general interest

September 11–15, 1999

Annual SAF National Convention

Portland, OR
Society of American Foresters, Oregon, and Washington State Societies
SAF 301-897-8720 ext.108;
safweb@safnet.org
Professionals, academics, general interest
Before 7/31 \$335-\$410; after 7/31 \$400-\$475
<http://www.safnet.org/calendar>

September 16, 1999

Wetlands Regulation and Mitigation

Davis, CA
University of California Extension, Davis
800-752-0881, fax 530-757-8558;
lunrinfo@unexmail.ucdavis.edu
Professionals, academics, general interest
\$270; <http://universityextension.ucdavis.edu>
Section 991U220

September 18, 1999

Estate Planning Workshop

Redding, CA
UC Cooperative Extension & Ctr. for Forestry, CDF, RCD, Forest Landowners of Cal., Cal Poly SLO, Shasta College
Sherry Cooper 530-224-4902
shcooper@ucdavis.edu
For professionals, academics, general interest
\$15 individual/\$25 couple

Let us publicize your event in this calendar. Please send information on items of interest to forestland owners to 1-800-738-TREE.

September 23–25, 1999

Reweaving the World: 11th Annual International Conference

San Francisco, CA
Society for Ecological Restoration
Julie St. John 520-670-6896 ext. 5
Julie_St_John@usgs.gov
Professionals, academics, general interest
\$130-\$300; <http://www.ser.org/>

September 25, 1999

Forest Stewardship Field Workshop

Redding, CA
UC Cooperative Extension & Ctr. for Forestry, CDF, RCD, Forest Landowners of Cal., Cal Poly SLO, Shasta College
Sherry Cooper 530-224-4902
shcooper@ucdavis.edu
For family forest landowners
\$15 individual/\$25 couple

October 9, 1999

Forest Stewardship Workshop

Richmond, CA
UC Cooperative Extension & Ctr. for Forestry, CDF, RCD, Forest Landowners of Cal., Cal Poly SLO, Shasta College
Sherry Cooper 530-224-4902
shcooper@ucdavis.edu
For family forest landowners
\$15 individual/\$25 couple

For more information, call the number given or the Forest Stewardship Helpline, 1-800-738-TREE. To submit an event or to receive this calendar by e-mail, contact Sherry Cooper, shcooper@ucdavis.edu.

ONLINE CALENDAR!

You will find a more comprehensive calendar, updated regularly, at the Calif. Forest Stewardship website:
<http://ceres.ca.gov/foreststeward>



For the Wildlife

Brush Piles Can Provide Vital Cover

They may not look like much to us, but to many wildlife species brush piles can be wonderfully attractive places.

Brush piles offer concealment from predators and protection from the elements. They provide cover for loafing as well as nesting. Brush piles can even harbor seeds and act as a medium for plant germination.

Creating brush piles is an established wildlife management technique most commonly used to enhance habitat for quail and other game birds. Besides these populations, brush piles can also benefit many other species. One study found 29 species of birds in brush piles in California oak woodland.

The need for brush piles varies depending on habitat conditions. In areas where cover is absent or sparse or even poorly distributed, brush piles can improve the ability of certain species to survive or reproduce. They may be especially beneficial during early seral stages such as after a clearcut or fire, or on open rangeland.

Brush piles can be built anywhere cover is limiting—next to forest edges, in openings, along the margins of streams. Species will be attracted depending on

their specific habitat requirements. For example, turkeys may use brush piles for nesting when they are built near the edges of a clearcut to allow foraging in the open areas. Other animals known to inhabit brush piles include rabbits, squirrels, other rodents, and various types of reptiles, amphibians, and invertebrates.

Landowners interested in building brush piles should make decisions based on the species desired and local habitat.

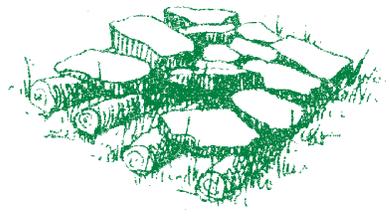
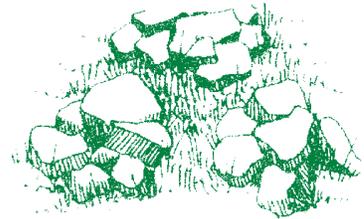
Brush piles can be constructed out of a variety of materials including logs, slash, and twigs. Often they are made from the by-products of other activities such as timber harvest, pruning, or thinning. [Note: If wood from conifers is used, make sure any pieces greater than 3" diameter are thoroughly dried so that bark beetles cannot breed. This is not a concern with hardwood such as oak.]

Spacing of piles is important and dependant on the target species. For example, research has shown that quail cover should be on the order of 30 to 60 meters from other escape cover. Proximity to water is also important.

Many brush pile designs use rocks, logs, pallets, or even tires as a base to elevate the brush, allowing the animals to move more freely within.

When building brush piles, be aware that this material is flammable and plan accordingly. Brush piles should never be built near structures or under tree canopy. Be sure that the piles are discontinuous, with adequate clearance around each to protect from wildfire. ▲

Brush pile designs



Artwork by Rae Chambers

There are innumerable ways to build brush piles. Some designs start with a base of either logs, stone, or both. Brush is added to the top of the base with larger limbs first, then smaller pieces.

How can the *Forestland Steward* newsletter help you?

I'd like to see more information on _____

My suggestion is _____

Add me to the mailing list / change my address:

Name _____

Address _____

City, Zip _____ Phone _____

Send to CDF, Forestry Assistance, P.O. Box 944246, Sacramento, CA 94244-2460.
Phone: (916) 653-8286; Fax: (916) 653-8957; e-mail: jim_geiger@fire.ca.gov